HEALTH and the WOMAN MOVEMENT

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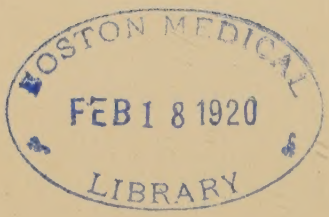

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Address given at the Fourth Biennial Conference of the Association of employed officers of the Young Women's Christian Association of the United States of America. Asilomar, California, May 15, 1915. Revised and amplified.

FOREWORD

The world war is making unprecedented demands on women as well as men. It is the duty of every woman to meet this demand from an economic as well as a racial point of view.

The time has passed when a woman may rest on her traditional periodic incapacity and be an invalid one week out of four. The present stirring times demand women at maximum capacity for work every day in the month—fit for any work at any time.

Woman's periodic incapacity is rapidly being laid aside as the world recognizes that a woman may be racially fit and at the same time economically efficient. (See "The Muscular Strength of College Women," by Mosher, Clelia D., and Martin, E. G., *Journal American Medical Association,* January 19, 1918; also editorial on "The Health of Women Wage Earners" in the same magazine for March 9, 1918.)

It is a matter of sincere regret that owing to the writer's war work, time is not available for a more adequate presentation of this simple method of correcting woman's unnecessary periodic incapacity; and that it is not possible to give at this time the accumulated evidence and added knowledge gained since the first edition of "Health and the Woman Movement" was published.

Paris, July 4, 1918.

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HEALTH AND THE WOMAN MOVEMENT

"BRING boys and girls up by the same method, let them as men and women have the same interests and occupations and in a few generations there will be no difference in the sexes but one of anatomy," is a statement of a feminist advocate. In refutation Professor Sedgwick [1] of the Boston Institute of Technology asserts that, "Sex is a deep-seated structural difference, affecting every organ, every tissue, every cell in the body," and goes on to say: "Women have narrower, rounder shoulders than men,

[1] Sedgwick, Professor William T. Interview in New York *Times*, January 18, 1914.

broader hips, more fatty tissue under the skin, smaller stature, lesser weight, smaller feet and hands. There is no reason to doubt that sex makes a difference throughout the entire structure, the brain included.'' After quoting from a distinguished physiologist (unnamed) he concludes: ''My experience as a teacher has proved the existence of these handicaps. I have been obliged to use different methods when teaching women.''[1] This is discouraging, if true. But what of the facts?

Life itself, not the feminist movement, is altering the status of women. Olive Schreiner in her book called ''Woman and Labor,'' published only a few years ago, points out that the changes in economic conditions have taken away the woman's occupation as a manufacturer in the home. Even the demands made by her profession of motherhood have been

[1] This is not the experience of Dr. Simon Flexner, Rockefeller Institute, and Dr. Frederick Peterson, professor of nervous and mental diseases, Columbia University, nor of Dr. W. H. Howell, professor of physiology, and Dr. Franklin P. Mall, professor of anatomy, Johns Hopkins University. See *N. Y. Times*, February 15. 1914.

lessened by the economic limitations in the size of the family. With these diminishing requirements there is danger that she will sink into a condition of parasitism which will result, not only in her own physical and mental deterioration, but in an injury to the race. Her book ends with, "To-day we are found everywhere raising our strange new cry—'Labor and the training which fits us for labor!' "

The European war is demonstrating that a woman may not only fight in the trenches but may receive the same rewards for bravery as her husband or brother. Russian women in the Battalion of Death have fought at the front, and an army of Serbian women has served in the trenches. In England regiments of women are being trained for home defence. In France, Germany, England, Italy, and now in America, women are replacing men in all occupations, both the higher and lower, even those requiring great endurance to exposure and physical strain: we hear of women conductors and motormen, railroad laborers, cab drivers, baggage porters; we have long heard of their plowing, sowing, and reaping. In other words, while men are at

the front the work of the world is being carried on by women.

At the present moment all professions and occupations are not only open to woman but are being successfully undertaken by her. Only yesterday women went to college at great personal sacrifice. And dire were the predictions of the evil results to her health and to the race. Characterized as "hermaphrodite in mind," and "divested of her sex," the college woman failed to develop the anticipated evils. She was found to be rather healthier than her sisters who did not go to college, to marry as other women of her class, and to bear a rather larger number of healthy children.[1] To-day women go to college as a matter of course and without comment.

The women of many sections of the United States, millions in number, now cast their votes and perform their civic duties, even serving as election officials, without destroying health or homes. Where are the traditional handicaps of sex?

[1] See Coolidge, Mary Roberts, "Why Women are So." Chapter XI. "The Phantom of the Learned Lady."

What becomes of the statement made by the distinguished physiologist (unnamed) whom Professor Sedgwick quotes as follows: "During the periodical recurrence there is apt to be more or less discomfort and nervous irritability; the woman is not quite herself, and those responsible for her happiness ought to watch and tend her with special solicitude, forbearance, and tenderness and protect her from anxiety and agitation. Any strong emotion, especially of a disagreeable character, is apt to work harm that may be followed by serious consequences, perhaps of a lasting structural character. A sudden chill often has the same effect. Violent exercise at this time should also be avoided. The climacteric is a critical period, various local disorders are apt to supervene and mental derangement resulting in abnormal behavior."

If this statement is true the outlook for the future of the race is gloomy indeed. Olive Schreiner's cry for labor has already been answered: millions of women as we have seen are carrying on every kind of labor and daily the number is augmented. Millions on millions of women, instead of being sheltered

and cared for during that so-called incapacitating periodic function of menstruation, are suffering every hardship and exposure; could there be emotions more poignant, conditions of labor and even conditions of life more frightful than those the women of the warring nations are now called upon to endure? Even in our own country the increasing strain of war work inevitably deprives women of this sheltering care. But is the statement true?

The historical development of the modern woman and the traditions which have unconsciously shaped women's mental attitude toward themselves and toward life have been traced by Mrs. Coolidge in her book, "Why Women Are So." Is it not possible that at least some of women's physical disqualifications as well, have been owing to surrounding conditions rather than inherent in her sex? I agree with Professor Meyer of Stanford University in his statement that "we cannot make a man into a woman nor a woman into a man."—I will go still further and say that we do not even wish to try to do so. But we may make a judicial examination of these

traditional handicaps in the light of scientific knowledge. Indeed we must do this, since a large portion of the race promises to be exterminated by the slaughter of the best manhood in the warring nations engaged in this most barbarous war in history, and since women are of necessity obliged to undergo the strain of unparalleled labor which they are traditionally unfit to bear; in this intolerable situation the need for truth with regard to women's physical limitation becomes imperative.

In 1892 every physiology still taught that women breathed costally, and men abdominally. The costal respiration of women was believed to be a provision against the time of gestation. In 1894 the writer[1] while at Stanford University and Dr. Fitz[2] at Harvard, independently and almost simultaneously, demonstrated that there is no sex-

[1] Mosher, Clelia Duel, "Respiration in Women." Preliminary report as thesis for M.A. Degree, Stanford University, May, 1894. Also paper presented at California Science Association, Jan. 3, 1896.

[2] Fitz, G. W., "A Study of Types of Respiratory Movements." *Journal of Experimental Med.*, Vol. I, No. 4, 1896.

ual difference in the type of respiration. My own experimental work on respiration has demonstrated that pregnancy interferes less with the respiration than has generally been believed. The respiratory movements in the different regions tend to become equalized, but the diaphragmatic respiration persists as late as the eighth and even the beginning of the ninth month of pregnancy. The movements of the diaphragm materially aid the expulsion of the bile from the common duct, as has been experimentally proved by Heidenhain and his pupils according to Naunyn. We may here have one of the factors in the production of gall stones which are of more frequent occurrence in woman than in man, another undesirable result of the unnecessary costal type of breathing. Moreover, strong abdominal muscles are essential to a good figure. They aid in the second stage of labor, are the chief support of the kidneys and abdominal organs, and, as we shall presently see, are very potent factors in preventing menstrual pain and excessive flow. Both the experiments of Dr. Fitz and my own clearly demonstrate that clothing is the most potent

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factor in the production of the costal type of respiration in many women.[1]

Now if we analyze the serious objections to women in industry and the plans for their care and protection, we inevitably come to the one function, menstruation, whether this be put into words or not.

What I am about to say in regard to the function of menstruation is based on the study of more than 1907 women during 12,000 menstrual periods. The observations and work in the physiologic and hygiene laboratories have extended over a period of 25 years. May I ask you, therefore, to discard all your preconceived ideas, your sex traditions, and your individual experience, and consider judicially the statements I am about to present?

The painful menstruation so commonly observed is, in the larger number of cases, congestive in type, and is produced by: (1) the

[1] Mosher, Clelia Duel: "The Frequency of Gallstones in the United States." (Read before the Johns Hopkins Hospital Medical Society, March 4, 1901.) *The Johns Hopkins Hospital Bulletin*, Vol. XII, No. 125. August, 1901.

upright position (Moscati); (2) alteration of the normal type of respiration by disuse of the diaphragm and of the abdominal muscles; (3) the lack of general muscular development; (4) inactivity during the menstrual period; (5) psychic influences. In order to follow the relation between these causes and the physiologic treatment about to be suggested, it is necessary to have clearly in mind not only the following anatomic but also certain physiologic facts concerning circulation.

The circulatory apparatus in human beings is not materially different from that in the higher mammals which go on all fours and thus carry the body in the horizontal instead of the upright position. The vena cava, the large vein emptying into the heart, is without valves; and, therefore, in the upright posture, a great column of blood must be sent back to the heart against the force of gravity. You have all had the experience in walking when your hands have been down at your sides, of noticing how they will first grow warm, then may swell, and finally hurt. This is the effect of gravitation on the circulation in your arms. The chief factor in

the return of the blood to the heart is the negative pressure in the thorax, or chest. "At each inspiration blood is 'sucked from the extrathoracic into the intrathoracic veins.'" The thoracic portion of the vena cava inferior, which is under less pressure than the abdominal portion has this difference increased by the descent of the diaphragm and the contraction of the abdominal muscles.[1]

Whatever part of the body is functioning at any particular time has a larger supply of blood. You have also had the experience when doing close mental work of having your head hot and your hands and feet cold; a larger supply of blood is in your brain and less in your hands and feet. You have also tried to do hard mental work after a hearty dinner and found your brain less active; the larger supply of blood was in your digestive organs and less in your brain. Thus the uterus, during the menstrual period, has its blood-supply augmented, and at the same time the general blood-pressure is lowered[2] and

[1] See Howell, W. H.: "Text-Book of Physiology," p. 588.

[2] Mosher, C. D.: "Normal Menstruation and Some

the local blood-pressure raised. By the menstrual hemorrhage the excessive local blood-pressure is relieved. Contrary to the old Hebrew belief, the menstrual flow is not getting rid of impurities; this blood, lost in the menstrual flow, is the same kind of blood as that used for mental or physical activity and represents, therefore, potential energy. In the intermenstrual period more energy of the person must be used to replace this loss.

This periodic physiologic congestion of the uterus in woman, which occurs about the time of menstruation, is frequently so excessive that it produces pain. The upright position, lax abdominal muscles, costal instead of diaphragmatic breathing, and constriction of the body by clothing which interferes with the use of the abdominal muscles and diaphragm—all combine to develop and promote this excessive pelvic congestion. As a result, there is pain at the menstrual period, prolonged hemorrhage, and undue loss of blood.

In a large number of cases I have corrected these conditions by the following physiologic

of the Factors Modifying It" (preliminary note), *Bull. Johns Hopkins Hosp.*, 1901, Vol. XII, p. 178.

method: "All tight clothing having been removed, the woman is placed on her back, on a level surface, in the horizontal position. The knees are flexed and the arms are placed at the sides to secure perfect relaxation. One hand is allowed to rest on the abdominal wall without exerting any pressure, to serve as an indicator of the amount of movement. The woman is then directed to see how high she can raise the hand by lifting the abdominal wall without straining, then to see how far the hand will be lowered by the voluntary contraction of the abdominal muscles, the importance of this contraction being especially emphasized. This exercise is repeated ten times, night and morning in a well-ventilated room, preferably while she is still in bed in her night-clothing. She is cautioned to avoid jerky movements and to strive for a smooth rhythmical raising and lowering of the abdominal wall."[1] These exercises should be taken twice daily every day in the month in-

[1] Mosher, Clelia Duel: "A Physiologic Treatment of Congestive Dysmenorrhea and Kindred Disorders Associated with the Menstrual Function." *Journ. American Medical Association,* April 25, 1914, Vol. LXII, p. 1297–1301.

cluding the time of menstruation. The bladder should be emptied before the exercises are begun. In many cases and particularly in those who need the exercise, the voluntary contraction of the muscles will at first be very slight. The exercises must be continued over a considerable period of time to accomplish any very striking results, long enough to develop these muscles and to establish their more or less constant use without conscious effort. Not until these muscles are developed to a point where a good contraction is possible, can any marked result be expected. This seems to be especially true in women who have no pain, where to shorten the period a longer time is required to make any appreciable difference.

The best developed women who have come under my observation have a period of not more than two days, free from pain, and in many cases are at their maximum efficiency every day in the month, so far as menstruation is concerned.

These exercises have in a number of cases where no organic disease existed, controlled the unpleasant and often serious symptoms at

the change of life; at puberty they have resulted, when tried, in "a gain in growth and weight of girls who were becoming anemic, languid, and who, though increasing in height, were not gaining in weight. In my experience the traditional treatment of rest in bed, directing the attention solely to the sex zone of the body, and the accepted theory that it is an inevitable 'illness,' while at the same time the mind is without wholesome occupation, produces a morbid attitude and favors the development and exaggeration of whatever symptoms there may be."

In other hands, my physiologic treatment has produced equally satisfactory results: women who have learned these exercises under my direct teaching have passed their knowledge on to other women in widely separated portions of the country; others have learned the method from the papers previously published in the medical journals.[1]

[1] Dr. Margaret L. Johnson makes the following report of her use of my physiologic treatment of congestive dysmenorrhea and kindred disorders: 103 abnormal menstrual conditions relieved as follows: 72 cases of dysmenorrhea

But why should so simple an exercise as the using of the abdominal muscles and diaphragm for about five or ten minutes a day, an exercise which any woman can do by herself, correct the age-long trouble associated with the functional periodicity of women, prevent some of the troubles occurring at puberty and the menopause (change of life), correct constipation, often relieve congestive headaches, occasionally stop the morning sickness of pregnancy and the after pains of child birth? It reads like the advertisement of a proprietary remedy or some cure-all device exploited by an advertising quack.

I believe the results are due to four things: (1) The overcoming, in the upright posture, of the effect of gravity on the circulation, by the restoration of the tone and action of the abdominal muscles and diaphragm; (2) The proper support, in their normal position, of the abdominal organs by strengthened ab-

(painful menstruation), 17 cases of menorrhagia (excessive flow), 14 cases of metrorrhagia (uterine hemorrhage between menstrual periods); 8 cases which serious surgical conditions and displacements did not improve, 28 other cases under observation for a short time gave no final report.

dominal muscles; (3) The correction of constipation by the massage of the intestines brought about through the descent of the diaphragm and the contraction of the abdominal muscles; (4) The doing away with the idea that menstruation is an illness, thus eliminating fear and worry. Let us consider some of these causes a little more fully. In my experience the accepted theory that menstruation is an inevitable "illness" produces a morbid attitude while the traditional treatment of rest in bed, keeping the woman very warm, directing the attention solely to the sex zone of the body, at the same time leaving the mind without wholesome occupation, favors the development and exaggeration of whatever symptoms there may be.

The lassitude, headache, and nervous irritability which it has been customary to associate with the menstrual function, may readily be explained by (1) the lowered general blood-pressure and excessive congestion of the uterus which causes the lack of a proper blood-supply in other organs, and (2) an inactivity which brings about both a lessened oxygen intake and a decreased carbon dioxide

elimination, thus favoring the development of these undesirable symptoms. To these factors must be added the normal stimulation of the sex centers at this time, which may express itself in nervous irritability and depression.

The periodic raising of the local blood-pressure and the lowering of the general blood-pressure has been grossly exaggerated in the woman by her physical inactivity and by her constricting dress and unhealthful habits.

Constrictive dress and inactivity apparently interfere more with the abdominal muscles than with the diaphragm. The degree to which they induce menstrual pain may be suggested by a comparison of my observations made in 1893–96 with others made in 1910–14. In the earlier group a larger proportion of the women had pain and discomfort of severe type and of relatively long duration. In the later group the larger number of cases have no disability and such pain as the remainder have is rarely severe and is of short duration. In 1893–96 the average width of

skirts worn by 98 young women was 13.5 feet —the widest 15 and the narrowest 9 feet. The weight of the outside skirt alone was often nearly as much as the weight of the entire clothing worn by a modern girl. At that period, too, every woman must have a wasp-like waist while several under petticoats were also carried from the waist. It is certainly not difficult to understand why so many women had menstrual pain at that period.

We should rejoice in the freedom of the modern girl with her large normal waist. The only other factor which is tolerably constant in the two groups compared above is that of exercise. In some measure the greater activity of modern girls, made possible by lighter and looser clothing, has undoubtedly assisted to lessen the menstrual hemorrhage, its duration, and the associated pain.

Under normal conditions there should be no more women suffering with disorders of the generative organs than with disturbances of the digestion, respiration, or heart. Do not fail to keep in mind, however, that the statements made throughout this paper refer only

to normal healthy women, who constitute the greater portion of womankind, and do not apply to women who have organic disease.

The following conclusions regarding functional periodicity may be questioned and may even be apparently disproved by your own experience or possibly that of your acquaintances, but this does not alter the facts. So general is the belief in the incapacitating effect of this normal physiologic process that one State, at least, is reported to have a law providing for a business woman's absence from work for a certain number of days each month. The possible repeal of this law, if women were given equal suffrage, was advanced as an argument by an anti-suffragist who genuinely believed in the necessity of a woman's being physically unfit to work two or three days in each month, although she, herself, found no necessity to alter her way of life from this cause. It is still very difficult for us to lend an open mind to any theory which opposes the accepted one of inevitable menstrual disability among women.

The first step in the physical regeneration of women is to alter their habits of mind in

regard to bodily functions. They now accept periodic disability as inevitable. The terms "sick time," "unwell," etc., for the function of menstruation and the mental acceptance of disability are so firmly fixed in traditional thinking that it is difficult to get a woman even to try to be well, however simple the method of relief offered to her.

The economic loss to the woman who has to earn her living and is yet periodically more or less incapacitated, is very great; and even to the married woman the loss in time and working capacity is considerable. But these losses are relatively unimportant as compared with the inability of the periodically depleted woman to be a vigorous mother to the race.

The first of these remedies is the removal of the factors which are producing the disability —constrictive clothing and the inactivity of the muscles of the abdomen and the diaphragm. But more important even than this is an alteration of the morbid attitude of women themselves toward this function, and almost equally essential is a fundamental change in the habit of mind on our part as

physicians; for do we not tend to translate too much the whole of a woman's life into terms of menstruation? If every young girl were taught that menstruation is not normally a "bad time" and that pain or incapacity at that period is as discreditable and unnecessary as bad breath due to decaying teeth, we might almost look for a revolution in the physical life of women.

I have found three women whose menstrual flow did not exceed a stain the size of a dollar. The first one, still an exceptionally vigorous woman at 60 or over, has borne eight perfect children and is a grandmother; the second, also an exceptionally vigorous woman, had three children and is a grandmother; the third bore two children. If this periodic loss of blood is not necessary to make a woman capable of child bearing, we may well ask what purpose it does serve.

I believe the menstrual hemorrhage is Nature's effort to relieve the undue congestion of the uterus which has been induced (1) by the upright position and (2) by interference with the normal physiologic return of the blood to the heart which should be accom-

plished by the action of the diaphragm and the abdominal muscles. The undue congestion is most frequently the cause of pain at the beginning of the menstrual period, this pain disappearing as soon as the flow is well established, which relieves the undue congestion.

I believe that menstruation represents, not "a supplemental wave of nutrition" (Jacobi) [1] but rather a waste of potential energy in the form of blood which might be used in productive work when not required for the development of the embryo. No physiologic purpose is served by the excessive congestion of the uterus and adnexa so frequently found in women. No harm can possibly come from bringing about by the physiologic method here suggested a better circulation of the blood through the generative organs. The healthy functioning of any organ is dependent on perfect circulation which brings oxygen and nutritive material to its cells and carries away its waste products, not on being overfilled by a sluggish blood-flow. In this over-

[1] Jacobi, Dr. Mary Putnam: "The Question of Rest for women," p. 168.

congestion, often unduly prolonged, have we not a condition favoring the development of pathologic (diseased) conditions?

At present all the evidence points to the menstrual hemorrhage as a secondary matter more or less fixed by the upright position. It is unnecessary and undesirable that it should be of more than brief duration or of more than slight amount. Pain and discomfort, where no organic lesion (disease) exists, are readily controllable by the physiologic regulation of the circulation from the abdomen and pelvis back to the heart, through the restoration of the tone and action of the diaphragm and also the abdominal muscles which give proper support to the abdominal organs. The coincident functional disturbances in other organs are a result, directly or indirectly, of the undue congestion in the pelvis which has drafted off too much blood from the general circulation leaving other parts, as the digestive area or skin, too depleted to function properly. The congestive headaches, whether they occur at the menstrual or the intermenstrual period, are often relieved by the equalizing of the circulation by these ex-

ercises. There can be no danger in limiting a woman's period by the exercise here described. In an anemic woman, however, or a woman not otherwise in good health, a shortened period may be an indication of danger and is a symptom to be dealt with by a well trained physician, who will find the cause, and not simply give drugs to bring about the prolonged period and unnecessary loss to further deplete her.

Let us return for a moment to the climacteric, menopause, or change of life, referred to by the distinguished unnamed physiologist quoted by Professor Sedgwick, as "a critical period * * * when mental disorders are apt to supervene resulting in abnormal behavior." From girlhood to womanhood the attention is directed of necessity, but often unduly, to so obvious a function as the menstrual flow. From the moment a girl hears of it, she is taught, as we have seen, to regard it as a periodic illness. The terms "sick time," being "unwell" have long been grafted into our ordinary speech. The result upon the mind of constantly anticipated misery can scarcely be measured. Imagine what would be the ef-

fect on the function of digestion, if from childhood every one were taught to refer to it as a sick time. After each meal every sensation would be exaggerated and nervous dread would presently result in a real condition of nervous indigestion, a functional disturbance. It is said that it is possible to make a man ill by simply having a number of people tell him how ill he looks. Certainly, there is no disputing the fact that the mind has a powerful, if unconscious, control of organic processes. Now for generations, if we have taught girls anything at all in regard to menstruation, we have been instilling the idea that it is a periodic illness involving suffering and incapacity. Surely this is a very potent factor in the emphasis and exaggeration of every sensation at this time. Dr. Crile's[1] recent work (in connection with quite another subject) gives a possible physical basis for this statement. He has shown that emotions, such as fear and worry, bring about disintegrating changes not only in the nerve cells of the brain but also in certain other organs of

[1] Crile, G. W. and Lower, W. E., "Anochi-Association," 1915, pp. 56, 93.

the body. This may be also the explanation of other common observations in regard to menstruation, such as (1) dysmenorrhea on alternate months; (2) the disabilities which are ascribed to some indiscretion or exposure at a previous period, although no trouble resulted at the time. Further, from girlhood to middle age, women are brought up in anticipation of misery, for even the cessation of menstruation, the menopause, is regarded with apprehension. Ask any woman how she feels about the coming change of life, and she too often will tell you she looks forward to it with dread, expecting to be incapacitated or perhaps insane. Thus her own nervous anticipations tend to increase whatever incapacity she may have to suffer. While it is true that a certain number of women are incapacitated at this time, yet I do not hesitate to affirm that much of the incapacity of this period is unnecessary and avoidable. There is no occasion for a woman to dread this period unduly. Instead of morbid unhappiness, the climacteric or change of life, should produce in the mind of a normal healthy woman no more than a mild regret that the period of

youth and potential motherhood is over, and should be naturally welcomed as release from the inconvenience attendant upon menstruation. Much of the trouble is due (1), to a nervous letting go of the woman's self-control; and acceptance of the "inevitable incapacity"; (2), to her muscular inactivity; (3), to social and family changes as much as to physical causes. If the woman has been the mother of a family, her family has grown up, her period of financial stress and effort in helping to build up the family fortunes is over. If she has had intellectual interest earlier in life, she has dropped them. She is confronted with a loss of her usual occupations and an absence of all necessity to exert herself; and at the same time her attention is directed unduly to her physical discomforts, be they small or great, or be they only a mere physical consciousness of altering conditions. Her condition is almost exactly analogous to that of an active man who stops business in middle life. Such a man often develops neurasthenic symptoms. Why should we be surprised when a woman does the same, with even greater reason? Without absorbing oc-

cupation, without mental diversion, and encouraged by the sympathetic pity of her friends, she lets herself go to pieces nervously, and spends a period of years in wearing out her family and finding life not worth living.

Dr. Archibald Church [1] has called attention to the nervous and mental disturbances of the male climacteric.

Setting aside the women who have organic disease, what classes do we find escape the disturbances of the menopause and climacteric? The answer may be given without fear of contradiction: those who are busy and useful. The women who have absorbing occupations, who are vitally necessary in the world, are the ones who get through this period unharmed. A prominent woman physician in the East declared a few years ago that not a single woman physician of her acquaintance had gone to pieces at the change of life. Among a considerable number of women who are teachers or authors or (in some cases)

1 Church, Dr. Archibald, "The Nervous and Mental Disturbances of the Male Climacteric," *Journ. of American Medical Association*, Vol. LV., No. 4, pp. 301–3, July 23, 1910.

have carried the burden of being the mother of a family while occupying a salaried position throughout the menopause, not one has had to quit work for this cause while four have certified that the research work which has brought them distinction was done without any inconvenience whatever during the years of this functional change. Whatever may be one's personal opinion of the advantages or disadvantages of woman's suffrage it may be said that equal suffrage like many of the economic and philanthropic opportunities now open to women, helps to meet this problem of the hygiene of middle life. During the years of a woman's necessary total absorption in her occupation of home making and the bearing and rearing of her children her intellectual occupations and interests outside of the home are laid aside. Where equal suffrage exists civic matters become a topic of home discussion; they concern the mother and daughters as well as the father and sons. Thus a passive interest in politics is kept alive in the woman during her years of total absorption in her family and home. When the period of leisure arrives it is not necessary

to try to manufacture an interest for the woman whose occupation, as has been shown above, has in the normal course of events been taken away from her. Thus "votes for women" becomes not only a safeguard to the woman of middle age, a help in preserving the integrity of the family, but a protection to the community from the menace of the unoccupied middle aged woman. It becomes economically an asset in the productive use of the force and intelligence otherwise wasted in doctor's bills, sanatorium treatment, or too often expended in dangerous fads.

Thus it would seem that many of the disabilities of menstruation and the change of life are due to removable and preventable causes, viz., bad hygiene.

Constipation: you have seen why constipation may cause menstrual discomfort for anatomic as well as physiologic reasons. The lax abdominal muscles often permit the sagging of the abdominal organs and occasion consequent imperfect functioning. Constipation is often associated with bad skin conditions and paves the way for many physical derangements. It is frequently corrected by gradu-

ally drinking a glass of cold water before breakfast each morning and taking from eight to a dozen glasses of water during the day, not more than one at a time; by a regular and unhurried time for attention to this function of elimination; by regular and wholesome food, including more fruit in the diet, the use of bran bread, bran biscuits, or bran cookies which, when properly made, are very palatable as well as wholesome. The elimination of constipation as a factor in producing pain at the menstrual period by these means, or the exercise of the abdominal muscles and the descent of the diaphragm through the massage of the intestines, corrects this undesirable condition by perfectly natural and physiologic methods, without resort to drugs or other undesirable means of elimination.

Water: the average woman needs more water inside and out. How many of my readers habitually drink from eight to twelve glasses of water a day? Yet insufficient water not only may be a cause of constipation but concentration of the urine may cause an irritable bladder which will require too

frequent emptying, one of the reasons frequently given for the neglect of water drinking. You have also seen the anatomic relation of the bladder to the uterus and the dangers of a neglect of this function.

Bathing: Take, for example, the question of bathing. Why should a woman alter all her habits of life so sharply at the time of menstruation? This alone is sufficient to account for many of her symptoms. At the time of her functional periodicity she needs more rather than less bathing, provided care is taken to prevent chilling of the surface, and provided she gradually accustoms herself, without fear or worry in regard to consequences, to rational bathing at this as well as other times. The average woman has been taught to have a phobia toward water at the menstrual period. The objection to bathing at the time of the periodic functioning is simply that, unless care is taken to prevent the chilling of the body and to secure a good reaction, so that the skin is in a glow, harm is done by depleting the surface circulation thus further increasing the blood supply of the already over-congested uterus; then the fear

and worry lest she may take cold adds to the harm. No more definite laws can be laid down for the frequency of bathing at the menstrual period than at any other time in the month. Then, as always, the rules in regard to bathing depend upon how the woman reacts to the particular kind and frequency of the bath. Before I found the cause, for four years I had been observing the distribution of acne on the bodies of women who have imperfect skins. If pimples are present they are usually on a triangle on the chest, across the shoulders, the back of the arms or legs. They may be in one or all of these localities. Have you ever considered that these are the places which receive less soaking in your tub baths? The triangular area on the chest is seldom covered with water, the body usually rests against the tub on some or all of these places. The correctness of my theoretical explanation has been proved in more than one case where additional attention to the proper bathing of the affected parts corrected a condition not yielding to medical treatment with ointments, etc.

The use of whiskey, gin, or other forms of

alcohol to relieve pain is, like the use of drugs,[1] both dangerous and unnecessary. The same result may be accomplished without danger by getting the woman warm, by hot applications, or a warm bath, and by taking hot water into the stomach. But simpler still is the exercise of the abdominal muscles and diaphragm; moreover, it accomplishes the same end. These exercises may be done profitably even in the upright posture, although they are more effective in the horizontal position, which, as stated before, does away with the effect of gravity on the circulation. The woman, of course, should get warm enough to restore normal circulation in the skin as well as do the exercises.

Every woman should cultivate the habit of thinking in terms of health; she should discard from her vocabulary the expressions "sick time," "unwell," to designate the periodic function of menstruation. Being a woman is no reason for not being perfectly well. She should avoid patent medicines and

[1] Adams, S. H. "The Great American Fraud," Chicago: The American Medical Association, 535 Dearborn Street.

cure-all devices which are sold for the benefit of the seller and not the buyer.

Feet: We hear constantly of broken arches and we go to get supports without inquiring why this degenerative change is so rapidly increasing. Yet the answer is not far to seek. We distort our feet quite as much as the Chinese did with foot binding of their women; ours is another but not less a distortion. Can we expect the foot, so similar in structure to the hand, not to feel the evil effects of being splinted to a stiff unyielding support in an abnormal position so that its muscles can never be properly exercised? Should we wonder that ligaments and unused muscles fail to keep the foot in a normal condition?

Fatigue: Dr. Hodge[1] has shown that there is an actual using up of the cell substance in the brains of bees and swallows during the day's activities. The exhausted cells, rested and fed, were seen to return to appar-

[1] Hodge, C. F. "A Microscopical Study of Changes Due to Functional Activity in Nerve Cells." *Journ. of Morphology*, Vol. VII, No. 2, 1892, "A Microscopical Study of the Nerve Cells During Electrical Stimulation." *Journ. of Morphology*, Vol. IX, No. 3, 1894.

ently normal condition. I take it that these studies suggest what proper periods of rest and proper food alternated with suitable activity may do for woman. The tendency to burn the candle at both ends, to cut short periods of rest and sleep, to hurry with or omit meals, to increase unduly the periods of activity, means simply taking away the time needed for the restoration of the cell substance used up by the legitimate activities of the day. The disregard of regular habits of eating and sleeping means ultimately, for the woman who habitually ignores these requirements, nervous bankruptcy.

To-day woman is offered unlimited freedom unhampered by any tyranny except the tyranny of fashion, which rests with her alone to remove.

Can you expect a good walk or a fine carriage of the body supported by such feet as fashion has developed for the average woman? With fashion molding the feet into some new form each year; with the kangaroo posture one year, the débutante's slouch the next; with woman's body resembling the wasp at one time and emulating a cylinder soon after;

with the strapping the breasts down to hide one of nature's greatest beauties, what can we expect? The drooping heads, the flat chests, the winged scapulæ, the prominent abdomen go with inefficiency and weakness. The weak shoulder girdle already referred to by Professor Sedgwick is in large measure a habit defect. Nothing in the ordinary life of a woman brings about much use of the arms even shoulder high; we do up our hair, and but recently fashion compelled us to adjust our hats in place before we put on our dress waist. There is no structural difference which would prevent the same activities and use in this part of the body in the two sexes.

If a woman is to use the opportunities thrust upon her, she must be physically equal to them. Sound health and physical perfection are therefore first requisites. This perfection for a woman certainly includes the desired breadth of pelvis, but does not necessitate "narrow round shoulders" as stated by Professor Sedgwick. The study of the Greek models does not show weakness in the shoulder girdle of the Venus de Milo nor of the equally beautiful Venus of Cirene, recently un-

earthed and taken to Rome. We must go back to the old Greek ideal of physical perfection, and not be content with the changing models of fashion makers, whose interest lies not in beauty or efficiency, but in creating a demand for the goods manufactured to sell.

It is rumored that fashion again is seeking to exploit the unthinking woman. Will she give up the freedom allowed her by skirts of reasonable width and weight? The health permitted her by the modern straight corset, which allows an almost normal waist? Will she accept the revival of ideals of the degenerate period of Catherine de Medici with her steel corsets, and, again loading the tortured waist with the weight of many pounds of skirts, give up the exercise and normal activities which make for real beauty, wholesomeness, and efficiency in the mother of the race?

The woman who is not well should study her dress in relation to her body; her habits of eating, water drinking, sleeping, elimination; her exercise and bathing; and make sure she gets sufficient fresh air. She should apply the same common sense to the correction of any wrong condition that she does to her

business in life. She should not alter her habits too violently but gradually accustom herself to a more hygienic way of living. If she needs medicine or advice, she should go to the best physicians she can find; they never advertise. Finally, she should do these exercises faithfully every day in the month, including the days of menstruation, and see if she cannot join the great and growing army of women who are perfectly well, and who recognize that being a woman is not a handicap.

A great responsibility rests upon us as physicians and teachers of physical training to lead women to ideas of health, to hold out to each one an attainable physical ideal, to teach the mechanism of our wonderful bodies so that she obeys the laws of her body, laws learned so perfectly that they are obeyed automatically. To manage this highly complex machine and work it at its maximum efficiency with the minimum of wear, is the problem.

The day of the type of woman who is all spirit, a burning flame, consuming her misused body, is passing. What we need are women no less fine and womanly, but with

beautiful perfect bodies, a suitable receptacle for their equally beautiful souls, who look sanely out on life with steady nerves and clear vision.

These are the women to whom, in spite of any encroaching demands of the woman movement, we may safely leave the future of the race.

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